

REMARKS

The Examiner is respectfully requested to review this application which has been amended after a careful consideration of the Examiner's comments in the Final Office Action mailed March 30, 2006. In that Office Action, the Examiner rejected claims 1-3 as being either anticipated by or obvious in view of the Adolfsoon reference (US 4,547,729) and the Goldner reference (US 6,211,982). Claim 1 has been amended to more distinctly point out applicants' invention and claim 2 has been canceled. It is applicants' position that claims 1 and 3, as amended, patentably distinguish over the prior art.

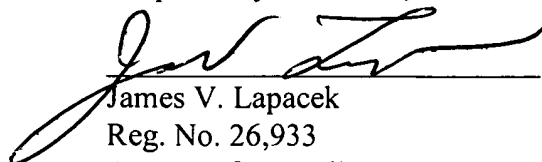
Both the Adolfsoon and the Goldner references are directed to interferometers which function on the basis of the interference between two signals. For example, in Adolfsoon, any modulation between signals is actually an "off-keying" combination resulting in amplitude modulation not frequency modulation as obtained by the magneto-strictive modulator of applicants' invention. The Goldner reference at column 1, lines 11-39 distinguishes this interferometer approach in Adolfsoon and Goldner from that of Bragg gratings on which applicants' invention is based. Specifically, the Adolfsoon reference in Figure 6 uses a magnet in concert with a spring to move a mirror with the magnet moving back and forth in response to an AC signal (tuning-fork like effect). This movement of the mirror changes the intensity of the reflected light yielding their optical signal. Thus, the Adolfsoon reference does not teach or suggest any DC magnetic bias along with mechanical prestress bias to the modulator as recited in applicants' claim 1, as amended.

This also points out the fundamental difference between applicants' invention as recited in claim 1, as amended, and the prior art relied on by the Examiner, namely, an output obtained from a magneto-strictive modulator that includes two or more tunable fiber optical filters (provided by Bragg gratings in a specific embodiment). It is this combination of that forms a wavelength-modulated output that is proportional to the current in the conductor. As to the Goldner reference, the Examiner refers to "tunable fiber optical filters" whereas Goldner only utilizes phase modulator electrodes 42, 44 and 46 in a Michelson interferometer configuration, the elements 28, 30, 41 merely being optical waveguides.

Thus, from the above, it is clear that the cited art neither discloses nor suggests applicants' invention as recited in claim 1, as amended, for an optical current sensor that includes both DC magnetic bias and mechanical prestress bias to a modulator for linearizing the output thereof. Claim 3 depending from claim 1 recites the additional feature of the second means including a permanent magnet. Accordingly, claims 1 and 3, as amended, and this application are considered to be in a condition for allowance and a favorable action to that end and allowance of this application by the Examiner are respectfully requested. If the Examiner feels that clarification of any issue or

comment herein would be helpful to facilitate prosecution of this application, the Examiner is respectfully requested to contact the undersigned attorney at the number listed below for a telephonic interview or to arrange a personal interview.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James V. Lapacek", is written over a horizontal line.

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